Part II

CONDITIONS OF PARTICULAR APPLICATION

The clauses of this Part II having the same numbers as these of Part I (FIDIC) are in replacement of the same clauses, while these of this Part II having different numbers are in addition to those in Part I.

NEW ESNA BARRAGE AND POWER PROJECT

CONDITIONS OF CONTRACT

PART II - CONDITIONS OF PARTICULAR APPLICATION

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1.(1) (a) The "Employer" is the Ministry of Public Works and Water Resources, Reservoirs and grand Barrages sector, Kasr El Eini Street, Cairo, Egypt - (telex 94014 EXWAP-UN)

(b).(1) "Contractor means the person or persons, firm or company whose tender has been accepted by the Employer and includes the Contractor's personal representatives, successors and permitted assigns.
The Contractor is the Main Civil leader, he is the only responsible towards the Employer for the execution of the Works under this Contract and provision of a complete realiable plant, also he is responsible about the interfaces between the different sections.

(b).(2) Manufacturer" means the Contractor with regard to the Manufactured Items or Equipment for which he is responsible, whether the company in question carries out such works directly or through the intermediary of a sub-contractor or nominated sub-contractor provided that the Contractor has entire responsibility for the Contract.

(c) "Engineer" is ****

(e) "Works" shall include Contractor's detailed Design, Working Drawings, Permanent Works and Temporary Works including Dredging and Maintenance, in accordance with the provisions of the Contract.
The terms "Plant", "Equipment", "Electrical and Mechanical Equipment" and "Manufactured items" denote any appliance, manufactured items, machinery, materials, apparatus or articles of any kind to be provided under the contract, other than "Constructional Plant".

(f) "Contract" means the conditions of contract, technical specifications, priced bill of quantities and related schedules, drawings, schedules, appendices, addenda, tender, minutes of pre-award meetings, letter of acceptance and the Contract Agreement if completed.

(g).(1) "Initial contract price" means the sum stated in the letter of acceptance:

(2) "Contract value" shall mean a portion of the Contract Price adjusted to give effect to such additions or deductions as are provided for in the contract, which is properly apportionable to the plant or work in question having regard to the state, condition and topographical location of the plant, the amount of work done, and all other relevant circumstances.

(h) Add, at the end of clause 1.(1)(h) of General Conditions, the following: Contractor's equipment, Manufacturer's equipment shall mean constructional plant

(o) "Test on completion" means such tests to be made by the Contractor before the works are taken over by the Employer as are provided for in the Contract or otherwise agreed between the Employer and the Contractor.

(p).(1) "Taking over" or "Provisional Acceptance" certificate shall mean certificate of completion.

(2) "Defects liability period" shall mean period of maintenance.

(q) Time is defined with reference to Gregorian Calendar; "day" and "month" mean calendar day and month according to the above- mentioned calendar.

(r) "Writing" means any manuscrit, type-written or printed communication including telex, cable, facsimile transmission.

(s) "Letter of acceptance" means the formal acceptance, made by or on behalf of the Employer, of the Tender including any adjustments or variations to the Tender agreed between the Employer and the Contractor.

Units

1.(5) All quantities given or measurements made in connection with the Contract shall be in accordance with the metric system

Duties and Powers of Engineer and Engineer's Representative

2.(1) The Engineer is required in terms of his appointment by the Employer to obtain specific approval of the Employer for the execution of his duties under the clauses numbered 4 (sub-letting), 6.(5) (Working documents), 12 (Sufficiency of tender, adverse physical conditions and artificial obstructions), 31 (Opportunities for the other Contractors), 40 (1) (Suspension of works) 42.(1) (Possession of Site) 43.(3) (Certificate of Completion of the works), 43.(4) (Maintenance period), 44 (Extension of time for completion), 48.(2) (Certification of Completion of Works), 51.(2) (Orders for Variations to be in writing), 52.(1) (Evaluation of Variation), 52.(2) (Power of Engineer to fix rates), 52.(3) (Variations exceeding 25 per cent).

2.(3) Notwithstanding the provisions of sub-clauses (1) and (2) hereof if in the opinion of the Engineer's representative an emergency occurs affecting the safety of life or of the works or of adjoining property he may direct the Contractor to carry out all such work or to do all such things as may be necessary in the opinion of the Engineer's Representative to abate or reduce the risk. The Contractor shall forthwith comply without appeal with any such direction of the Engineer's Representative.

The Engineer shall determine the amount (if any) of extra payment to which the Contractor may be entitled in accordance with the Contract in respect of work done pursuant to the provisions of this sub-clause.

2.(4) In general the Engineer should have the approval of the Employer for any omission, addition of works or fixation of rates or prices or agreement on any sum or the aproval of the sub-contractors, suppliers and manufacturers.

The approval of the Employer on any payment to the Contractor for services and/or works performed or any issuance of Certificates is essential.

The Employer has designated the Engineer to supervise the Contract on behalf of the Employer under the Employer's overall supervision within the Engineer's powers mentioned in the Contract Conditions.

The Employer will provide the overall direction and control.

Sub-letting

4. The Contractor shall not sub-let the whole or major part of the works. Except where otherwise provided by the Contract, the

Contractor shall not sub-let any part of the works without the prior written consent of the Engineer, which should be approved by the Employer, and such consent, if given shall not relieve the Contractor from any liability or obligation under the Contract and he shall be responsible for the acts, defaults and neglects of any Sub-contractor, his agents, servants or workmen as fully as if they were the acts, defaults or neglects of the Contractor, his agents, servants or workmen. Provided always that the provision of labour on a piecework basis shall not be deemed to be sub-letting under this clause. All terms and conditions of any sub-contract shall as far as they are applicable comply or be deemed to comply with the terms and conditions of this Contract.

Language/s and Law

5.(1). (a) All correspondence, text or drawings, operation and maintenance instructions, etc. shall be in the English language, which shall be the language of the Contract.

(b) The Contract shall be deemed an Egyptian Contract and governed by and construed according to the laws in force in Egypt.

One Copy of the Drawings to be kept on Site

6.(2) Add the words "or by the Contractor" between the words "as aforesaid" and "shall be kept" in the sub-clause 6.(2) on the General Conditions.

Disruption of progress

6.(3) At the end of the Clause add: "Copy of such notice shall be sent to the Employer at the same time".

Working Documents

6.(5).(a) Working drawings for civil works and manufactured items.
The Contractor shall, within the time specified or in accordance with the programme under clause 14 hereof, supply the Engineer with 5 copies (plus those which he needs to be returned) of working drawings and calculation and explanatory notes concerning the civil works and the manufactured items to be provided under the contract as well as any other specified drawings regarding the works. No working drawing shall be approved by the Engineer until he has in his possession the calculation notes.
A procedure for approbation of the working drawings by the Engineer will be defined at the beginning of the works.

(b) Working drawings and documents for the temporary works and for alternatives to the permanent works.
Similarly, the Contractor shall within the specified time, submit to the Engineer for approval the working drawings and document concerning the temporary works. Furthermore, in the case where the Engineer considers that certain alternatives proposed by the Contractor for the permanent works are acceptable the Contractor shall establish at his own expense and submit for the Engineer's approval the relevant design documents, calculation notes, working drawings and quantities for measurement purposes.

(c) Operating and maintenance instructions for the Manufactured items

The Contractor shall provide the Engineer with instructions concerning the operation and maintenance of the manufactured items and as-built drawings sufficiently detailed for the Employer to be able to maintain, dismantle and reassemble all parts of the equipment.
These instructions and drawings shall be submitted in 25 copies to the

Engineer. The works cannot be considered complete and the completion certificate cannot be issued until the main documents have been supplied to the Engineer.
The same stipulation shall apply to alternative for the permanent works which the Engineer has accepted.

(d) Errors in drawings and documents

The Contractor shall be responsible for any discrepancies, errors or omissions in the drawings and information supplied by him, whether they have been approved by the Engineer or not, provided that such discrepancies, errors or omissions are not due to incorrect drawings or inaccurate information furnished to the Contractor in writing by the Employer or the Engineer.

As Built Drawings

6.(6) As structures are completed and in any case before a certificate of completion is issued, the Contractor shall provide for each structure the specified number of copies of all drawings and explanatory and calculation notes prepared by him under the Contract.
The above mentioned drawings and notes shall be "as built" drawings and notes.

9. Clause 9 in Part I becomes sub-clause 9.(1)

Joints and Several Liability

9.(2) The works of this contract will be carried out under a single Contract, with the Civil Works Contractor (Main Contractor) as a leader and sponsor taking responsibility for the entire works. The approval of the Employer on the sub-contractors, suppliers manufacturers shall not relieve the Contractor from any

liability or obligation under this Contract.
In case of two or more companies acting as the Contractor under the Contract, their liability shall be joint and several. No such member shall retire nor shall any new member be admitted without the prior written consent of the Employer. The Joint Venture/Consortium companies shall appoint a Civil prequalified leader for management of whole work and judgement between them.

Performance Bond (Final letter of guarantee)

10. As a guarantee for the due performance of the Contract, the Tender shall contain an undertaking by the Contractor, when his tender is accepted, to present to the Employer a Performance Bond (Final Letter of Guarantee), to be as a guarantee for the fulfilment of the Contract. The cost of the bond shall be at the expense in all respects of the Contractor. The letter has to be issued by an accepted Bank. The amount of the Bond shall be 10% (ten percent) of the Contract initial price.

Programmes to be furnished

14.(1) The Contractor shall, within one month from the receipt of the Letter of Acceptance, submit a Programme of Works for the approval by the Engineer. Such Programme shall cover the whole construction period and clearly show conformity with the Tender and related Appendices and further be compatible with the Memorandum attached to the Tender and such amendments and adjustments thereto as have been agreed upon. The Programme shall in sufficient detail define the time period required, the order of priority and the interdependence of the various individual operations to be performed, and the main constructional plant required.

14.(2) The Contractor shall within one month of the approval of the Programme of Works submit to the Engineer for his review a Detailed Programme of both Provisional and Permanent Works covering at least one year's work. Every three months after the first submission of the detailed programme and until the works are completed, the Contractor shall submit to the Engineer for his review an extended and revised detailed Programme.

The detailed Programme shall contain information in greater detail than the previous Programme about the order of priority and procedure in which the Contractor proposes to carry out the Works together with full particulars of the methods of construction, the staff, the skilled and unskilled labour, the Constructional Plant, the materials and Temporary Works which he intends to supply, use or construct as the case may be. The Programmes shall also show the dates when the various works are expected to be commenced, constructed and completed. The programmes shall furthermore contain information about dates when drawings for construction will be submitted to the Engineer for approval and forecasts of the amounts of the Contractor's monthly statements. The Critical Path Method (CPM) shall be used in the planning to as great extent as feasible.

14.(3) The Contractor shall further whenever required by the Engineer furnish for his information particulars in writing of the Contractor's planned arrangements for carrying out the Works.

14.(4) The submission to and approval or review by the Engineer of any programme or the furnishing of any particulars shall not relieve the Contractor of any of his duties or responsibilities under the Contract.

14.(5) The Contractor shall at the end of each calendar month submit a Monthly Report to the Engineer showing the actual progress of the Works as compared with the scheduled. This report shall also include details of manpower, material, plant equipment and constructional equipment on site, shipments details received on site and any other details and requirements which may be requested by the Engineer's representative.

15. Clause 15 in Part I becomes sub-clause 15.(1).

Contractor's Superintendence

15.(2) The Contractor's agent or representative shall be fluent in the English language.

Contractor's employees

16.(3) A sufficient number of the Contractor's technical assistants, sub-agents, foremen and leading hands shall have a good working knowledge of the English language.

19. Clause 19 in Part I becames sub-clause 19.(1).

Fire Protection

19.(2) The Contractor shall as long as he is carrying out work of any kind at the Site(s) provide and maintain adequate fire protection arrangements as required for the protection of the Works and for the protection of all persons and all property of whatsoever nature in all parts of the Site.

20.(1) 6th line - As the work of this Contract is on turnkey basis delete "Provided that if the Engineer...till...shall pass to the Employer".

20.(3) In the event of any such damage, loss or injury happening from any of the excepted risks, mentioned in Clauses 20(1) hereof and 20(2) hereof, no reimbursement will be done by the Employer to the Contractor for the due repairs if the damages are due or increased by acts or negligence of the Contractor or his assistants.

Insurance of Works, etc.

21. Item (a) of this clause to be read as follows:

(a) The Works for the time being executed to the current contract value plus 10% thereon, together with the materials for incorporation in the Works at their replacement value.

- Add items (c) and (d) after (b):

(c) It shall be the responsibility of the Contractor to notify the insurer of any change in nature and extend of work and to ensure the adequacy of the insurance cover at all times in accordance with provisions of this clause.

(d) Such insurance shall provide for compensation to be payable in the types and proportions of currencies needed to cover the loss or damage incurred.

- Add at the end of the clause:

"The insurer should be an Egyptian Insurance Company."

Clauses 21; 23; 24.

Delete "Engineer and Engineer's Representative" and replace it by Employer.

31. Clause 31 in Part I becomes sub-clause 31.(1).

Opportunities for other contractors

31.(1) The Contractor shall, in accordance with the requirements of the Engineer, afford all reasonable opportunities for carrying out their work to any other contractors employed by the Employer and their workmen and to the workmen of the Employer and of any other duly constituted authorities who may be employed in the execution on or near the Site(s) of any work not included in the Contract or of any contract which the Employer may enter into in connection with or ancillary to the Works.

31.(2) In complying with his obligations in this respect the Contractor shall provide the facilities in respect of living and office accommodation for the other Contractors as set out in the Specifications.

The Contractor shall also provide ancillary services such as supply of water and electricity and disposal of storm water, sewage, waste, etc. To the above-mentioned living and office accommodation as well as to the places where the other Contractors are carrying out their work, as set out in the Specifications.
The Contractor shall further provide power, compressed air and water at main connection points and make available fenced storage areas and lockable storage buildings to the other Contractors as set out in the Specifications.

31.(3) The Contractor shall, as set out in the Specifications, provide and maintain medical services in respect of the First Aid Stations and ambulance transport for the use of the employees of the Employer, the Engineer and other Contractors and their families.

Clearance of Site on Completion

33. On the completion of the Works the Contractor shall clear away and remove from the Site all Constructional Plant, surplus materials, rubbish and Temporary Works of every kind except such parts of the Temporary Works specified in Technical Specifications as the Employer decide to take over, which parts shall then be handed over after good repair free of charge to the Employer and the Contractor shall leave the whole of the Site and Works clean and in a workmanlike condition to the satisfaction of the Engineer.

Festival and Religious Customs

34.(5) The Contractor shall in all dealings with labour in his employment have due regard to all recognised festivals, days of rest, fridays and religious or other customs.

Observance by Sub-Contractors

34.(8) The Contractor shall be responsible for observance by his Sub-contractors of the foregoing provisions and of any other provisions set out in the Sub-clauses of this Clause 34.

34.(9) The importation of labour and personnel shall be subject to the statutes, ordinances, laws, regulations and bye-laws in force from time to time and no labour or personnel shall be imported by the Contractor without first obtaining the necessary permit or permits or passports from the appropriate authorities. The Employer shall when requested by the Contractor use his best endeavour to ensure that the necessary entry and work permits, visas and similar documents are obtained when required, provided always that the Contractor shall make his requests in reasonable time.

34.(10) The Contractor shall provide free of charge to all his employees and their families the use of the First Aid Station and ambulance transport. He shall further pay possible costs for hospital accommodation and treatment.

43. Clause 43 of Part I becomes sub-clause 43.(1).

Substantial Completion

43.(1) The Contractor shall complete the whole of the works not later than fifty (50) months after the date of the Employer order to commence the works. The event will be called substantial completion of the Works. Only minor finishing can be delayed with regard to the date fixed for this event. The Contractor will advice in writing the Employer of the Substantial Completion of the Works.

43.(2) Not used.

Certificate of Completion of the Works

43.(3) Deleted

Maintenance Period

43.(4) After the issuing of the Certificate of Completion, the Maintenance Period (Guarantee period) of twenty four months will start. At the end of this period, the Contractor shall have met all his obligations deriving from this Contract to the satisfaction of the Employer. If any part of the work, or equipment, has been repaired or replaced then a new guarantee period of twenty four months shall start from the date of acceptance of this repaired or replaced portion.

Liquidated Damages for Delay

47.(1) The matter of liquidated damages for delay will be regulated in accordance with clause 81 of Egyptian regulation titled "Tenders and outbidding regulations", the concerned parts of which are reported hereafter.
The Contractor should complete the works under this contract in the relevant time specified herein, to comply with the date of Substantial Completion of the Works. If by his failure in this respect a delay is caused, the concerned authority for approval may give him an extension of such time to complete the execution of works, and the Contractor shall pay to the Employer an amount of liquidated damages

for such default, of delaying between the stipulated time for completion and the actual date of completion.
The period of stopping the works that the Employer agreed upon considering it as for force majeure are not included in the afore mentioned delay.
The liquidated damages shall be as follows (cumulative percentage):

. 1.0% (one percent) for the first week or a part of it
. 1.5% (one and half percent) for the second week or a part of it
. 2.0% (two percent) for the third week or a part of it
. 2.5% (two and half percent) for the fourth week or a part of it
. 4.0% (four percent) for every month or a part of it after that, however the total amount of liquidated damages should not exceed 15% (fifteen percent) of the Contract Value.

The liquidated damages shall be calculated as percent of the final total actual value of the Contract if the Employer sees that the remaining part forbid getting profit directly in the stipulated time from the already executed part of the work. In case the Employer sees that the remaining part does not affect the whole work, the liquidated damages shall be calculated as mentioned before as percent of the value of delayed works only. The liquidated damages should be promptly paid by the Contractor as delay happens although no damages occur without notice or warning. The Employer will deduct the delay liquidated damages from any payments which are due or may become due to the Contractor.

Deduction of Liquidated Damages

47.(2) The payment to the Employer by the Contractor of liquidated damages related to delayed commissioning of any of the electromechanical equipment or of costs incurred in relation to delay in giving prescribed access to any other Contractor within the stipulated time shall not relieve the Contractor of his obligation to complete the Works or from any other of his obligations and liabilities under the Contract. The Employer may without prejudice to any other method of recovery deduct the amount of such damages or costs from any monies in his hands due or which may become due to the Contractor.

52.(3) In Part I, the percentage of 10% is to be changed in 25%.

Plant, etc.. Exclusive Use for the Works

53.(1) From the commencement to the completion of the Works, the Permanent Works, Construction Plant, Materials, Temporary Works and things whatsoever brought on to the Site in connection with the Contract shall become the property of and rest in the Employer subject to any right of rejection of any materials not approved but the care of the same and everything connected therewith or appartaining thereto shall be responsibility of the Contractor who shall protect and preserve entire and uninjured the whole of the Works and materials and other things aforesaid brought on to the Site until the termination of the Contract and the Contractor shall not remove the same or any part thereof (save for the purpose of moving it from one part of the Site to another) without the consent in writing of the Engineer.

Removal of Plant, etc.

53.(2) Upon the issuance of the last Certificate of Completion the Contractor shall remove from the Sites all the said Constructional Plant and any unused materials provided by the Contractor not required during the Maintenance Period and Temporary Works not required by the Employer.

Customs
Clearance

53.(5) The Employer will assist the Contractor, where required, in obtaining clearance through the Customs of Plant, Constructional Plant, materials and other things required for the Works.
All purchasing orders, bills of lading and similar documents shall be clearly marked:

ARAB REPUBLIC OF EGYPT
Ministry of Public Works and
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Reservoirs and Grand Barrages Sector
New Esna Barrage and Power Project

except Contractor's constructional equipment (including its spare parts) and the personal effects (including personal vehicles), the bills of lading and similar documents shall be marked by the Contractor's name care of the "Employer". The Employer will assist Contractor by issuing letter of introduction required by A.R.E. Authorities.

However, Contractor shall bear all costs for bonds required by A.R.E. Authorities for temporary entry of such personal effect (including personal vehicles) and construction equipment (including spare parts).

The Contractor shall prior to his customs clearance of goods being imported present the relevant documents to the Employer for his authentication of the same.

The Contractor shall be responsible for paying all customs duties according to Egyptian Customs Regulations.

53.(6) The Contractor shall obtain his own information with regard to the granting of import and export licences for Constructional Plant and materials of all kinds. The Contractor shall bear all expenses for obtaining all such import and export licences stamp duties, etc. required for the fulfilment of his obligations under the Contract and shall be deemed to have satisfied himself with regard to all his liabilities under the laws and regulations governing the granting of these licences. The Contractor shall ensure that applications for import and export licences are submitted in sufficient time to enable clearance of all formalities.

53.(7) Constructional Plant, materials, Temporary Works, transportation facilities and all things of every kind for use in connection with the Works shall be of such type, capacity, power, quantity, design and construction and erected in such positions or used or executed at such times and in such manner as is indicated in the programmes to be provided by the Contractor under the terms of Clause 14 hereof or any subsequent modifications thereto duly agreed upon as are most efficient and suitable for the proper timely and safe execution of the Works to be undertaken under this Contract.
Whenever the quality and the cost of Constructional Plant and materials of Egyptian and foreign products are equal the Contractor shall give preference to the Egyptian produce.

53.(8) Unless otherwise stated in the Specifications the Contractor shall be held entirely responsible for dealing with all hazards concerned with water on the Site from whatever source and at his own expense properly deal with and dispose of the said water by use of sufficient Constructional Plant, materials, Temporary Works, transport and things of every kind as to ensure the whole of the Works being executed in a satisfactory dry and safe manner in accordance with the requirements of the Specifications.

53.(9) The Contractor shall at his own expense and where necessary provide and maintain all the requisite temporary bridging gangways, ladders, stagings, roads and footpaths to and about the Site of the Works, as may be necessary for the Construction of the Works or transport of labour. Constructional Plant and materials. All the above-mentioned works which may be constructed and used generally for the Works shall be available for the normal use of the Employer, the Engineer and other Contractors without charge and the Contractor shall carry out the instruction of the Engineer in this regard.

Special Shipping Requirements

53.(10) Contractor shall effect all shipments of project from abroad of material covered under the contract according to the regulations of MARTRANS (The Egyptian Company for Maritime Transport) on vessels approved by MARTRANS.
Contractor shall submit to MARTRANS a tentative monthly shipment program three months in advance of actual shipment. Thirty days before shipment Contractor shall contact MARTRANS providing the detailed program and the exact shipping dates and request identification and assignment of approved vessel, or, if no vessel can be assigned, a waiver from MARTRANS authorizing shipment on an alternate vessel. MARTRANS will issue a waiver authorizing shipment on an alternate vessel not less than fifteen days before the shipping date submitted by Contractor. If no waiver is received from MARTRANS and approved vessel is not assigned to met Contractor schedule. Contractor may upon prior notification to the Employer, describing the circumstances, make its own arrangement for shipment on an alternate vessel.

MARTRANS
7, Abdel Khalek Sarwat St.
CAIRO - EGYPT

Works to be Measured

56. All work completed under the Contract shall be measured and recorded by the Contractor and the measurements shall be checked and approved by the Engineer. The Engineer shall at any time have the right to be present and supervise the taking of

such measurements. For the purpose of measuring the Works the Contractor shall prepare records and drawings which shall be submitted to the Engineer for approval. If after examination of such records and drawings the Engineer does not agree on the same then the Engineer and the Contractor shall reach an agreement by together retaking the measurements using the Contractor's equipment and personnel.

Advances on Constructional Plant and Materials

60.(2) The Contractor may invoice for an advance payment in a sum not exceeding fifteen percent (15%) of total contract price named in the letter of acceptance and in the same currencies stated in the Bill of Quantities according to what is stated in Clause 76 hereof.

60.(4) The Contractor shall submit to the Engineer and the Employer at monthly intervals a Statement of Account in a form accepted by the Engineer which shall show the estimated value of the Works executed from the commencement of the Works up to the end of the previous month. The Engineer and Employer will check the said statement and will issue a Provisional Certificate based thereon where the due amount is stated in the following measure:

(a) For Civil Works

1. 95% (ninety five percent) of the value of the Permanent Works executed from the commencement of the works up to the end of the previous month, calculated on the basis of the Contract rates and prices, being the remaining 5% (five percent) the Retention Money.

2. 60% (sixty percent) of the value of Material on site intended to be incorporated in the Permanent Works

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evaluated on the basis of the Contract rates and prices.

(b) For Imported Permanent Electro-mechanical Equipment (indicated in Volume III of Bill of Quantity PB4, PB5) the payment method is adjusted as follows;

1. 60% (sixty percent) of CIF Alexandria price against shipping documents.

2. 20% (twenty percent) of CIF Alexandria price on site delivery.

3. 20% (twenty percent) of CIF Alexandria price upon successful commissioning.
(For the turbines, 6 instalments are to be invoiced after the "Provisional Acceptance" of each unit)

(c) The mode of payment for transport and erection shall be invoiced as follows:

1. 80% (eighty percent) monthly progress payments

2. 20% (twenty percent) at Provisional Acceptance of the project. For the turbines, 6 instalments are to be invoiced after the Provisional acceptance of each unit.

(d) The Mode of Payment for Spare Parts

Shall be invoiced 100% upon receipt by the Employer at Site.

(e) The Mode of Payment for the Model

Shall be:

1. 90% (ninety percent) at certificate of approval model test report.
2. 10% (ten percent) on six instalments after the provisional acceptance of each unit.

(f) Any other payments due to the Contractor under the Contract.

(g) Any sums due by the Contractor to the Employer, including the monthly instalments of the Advance Payment restitution.

The amount due to the Contractor in the corresponding month derives from the difference between the total statement of account of that month and the one of the previous month.

The Employer shall deduct social insurance, stamp duties or any other dues imposed by laws in A.R.E. from the Contractor invoices and provisional certificates.

All invoices and provisional certificates shall be approved by the Employer within 60 days.
The foreign portion of the Contract price shall be paid through a letter of credit Cost of establishment of this L/C shall be to the Contractor account. It shall be opened with an approved Egyptian Bank.

The local portion of the contract price shall be paid by direct disbursement by the Employer.

The Contractor will be paid 60 days after the issuing of each provisional Certificate.

No progress payment nor interim Certificate shall be considered as releasing the Contractor from any obligation and responsibility linked to the Contract.

The Contractor should insert special clauses for proposed measurement and payment for each lump sum item (which should be approved by the Employer) to indicate the procedure of measurements and to allow the Employer to control the cash flow. This is applicable for lump sum items for Civil Works.

60.(5) The Engineer may by any Provisional Certificate make any correction or modification in any previous Provisional Certificate(s).

60.(6) The Final Statement of Account shall be drawn up by the Employer within three months from the issuance of the Maintenance Certificate and the Contractor shall be invited in writing to sign either with or without reservation the above Final Statement of Account within 30 days from the date of notification of such invitation. When signing without reservation the Contractor shall be deemed to agree with the content of the Final Statement of Account and to admit that upon receiving the amount stated therein he shall have received full payment of all amounts due to him and shall have no claim whatsoever under the Contract against the Employer except with regard to the Performance Bond and the Bank Guarantee (if any).
Should the Contractor sign the Final statement of Account with reservation he shall then within 40 (forty) days from the date of notification of the above invitation expound such reservation(s) in one single Memorandum giving in detail the reasons thereof with all relevant documents, failing which the above reservation shall be held as non existent. Any further reservation(s) made by the Contractor in addition to the reservation expounded in the above Memorandum shall be disregarded.
The Social Insurance Clearance Certificate, clearance from tax authorities evidencing the payment of labour income taxes due under the laws of A.R.E., release of liens and customs regularization of all imported shipments, must be submitted with Contractor's last invoice. However, if Contractor elects to furnish adequate Bank guarantee instead of the above documentation, it shall be submitted prior to the release of the performance bond.
Furthermore, the release of liens must be signed by Contractor and all Sub-contractors performing work at the site

60.(7) The Contract value shall be paid in the currencies stated in the Tender and in the proportions resulting from the application of the Bill of Quantities.

Maintenance Certificate

62.(1) The Contract shall not be considered as completed until a Maintenance Certificate shall have been issued by the Employer stating that the Works have been completed and maintained in accordance with the Contract. The Maintenance Certificate shall be given by the Employer within one month after the expiration of the Period of Maintenance , or as soon thereafter as any works ordered during such period, pursuant to Clauses 49 and 50 hereof, shall have been completed in accordance with the Contract and full effect shall be given to this Clause, notwithstanding any previous entry on the Works or the taking possession, working or using thereof or any part thereof by the Employer

Return of Performance Bond

62.(4) Upon issuance of the Maintenance Certificate, the Performance Bond (Final Letter of Guarantee) shall be returned to the Contractor.

67. Clause 67 of Part I becomes sub-clause 67.(1).

Settlement of Disputes-Arbitration

67.(1) If any dispute or difference of any kind whatsoever shall arise between the Employer and the Contractor or the Engineer and the Contractor in connection with, or arising out of the Contract, or the execution of the Works, whether during the progress of the Works or after their completion and whether before or after the termination, abandonment or breach of the Contract, it shall, in the first place, be

referred to and settled by the Engineer who shall, within a period of ninety days after being requested by either party to do so, give written notice of his decision to the Employer and the Contractor.
Subject to arbitration, as hereinafter provided, such decision in respect of every matter so referred shall be final and binding upon the Employer and the Contractor and shall forthwith be given effect to by the Employer and by the Contractor, who shall proceed with the execution of the Works with all due diligence whether he or the Employer requires arbitration, as hereinafter provided, or not.
If the Engineer has given written notice of his decision to the Employer and the Contractor and no claim to arbitration has been communicated to him by either the Employer or the Contractor within a period of ninety days from receipt of such notice, the said decision shall remain final and binding upon the Employer and the Contractor.
If the Engineer shall fail to give notice of his decision, as aforesaid, within a period of ninety days after being requested as aforesaid, or if either the Employer or the Contractor be dissatisfied with any such decision, then and in any such case either the Employer or the Contractor may within ninety days after receiving notice of such decision, or within ninety days after the expiration of the first-named period of ninety days, as the case may be, refer the matter or matters in dispute to arbitration as hereinafter provided. All disputes or differences in respect of which the decision, if any, of the Engineer has not become final and binding as aforesaid shall be finally settled by an arbitral body of three members, the first being appointed by the Employer, the second being appointed by the Contractor and the third elected by the first and the second member

If the Employer or the Contractor shall fail to appoint his member as aforesaid within a period of three weeks from receipt of written notice from the other party through registered mail, or if the first and the second arbitrators shall fail to agree within a period of three weeks after appointment as to the election ~~of~~ the third arbitrator such arbitrator shall, if the two parties do not otherwise agree, be appointed by the Court of Arbitration of the International Chamber of Commerce in Berne.

67.(2) As part of their scope of services, the arbitrators shall determine the costs and fees of arbitration to be borne by each party, taking into consideration the relative faults of each party.

67.(3) Arbitration shall take place in Cairo. A.R.E.

67.(4).(a) Any and all controversies, claims or disputes arising in connection with this Contract, or the breach thereof shall be finally settled under the rules of conciliation and arbitration of the International Chamber of Commerce in Paris.

(b) In considering the issue or issues submitted for arbitration, the arbitrators shall make reference first of all to the following authorities:

i) To the terms of this Contract

ii) To the Laws of the Arab Republic of Egypt.

The said arbitrator/s shall have full power to open up, revise and review any decision, opinion, direction, certificate or valuation of the Engineer. Neither party shall be limited in the proceedings before such arbitrator/s to the evidence or arguments put before the Engineer for the purpose of obtaining his said decision. No decision given by the Engineer in accordance with the foregoing provisions shall disqualify him from being called as a witness and giving evidence before the arbitrator/s on any matter whatsoever relevant to the dispute or difference referred to the arbitrator/s as aforesaid. The reference to arbitration may proceed notwithstanding that the Works shall not then be or be alleged to be complete, provided always that the obligations of the Employer, the Engineer and the Contractor shall not be altered by reason of the arbitration being conducted during the progress of the Works.

Service of notices on Contractor

68.(1) The Contractor shall maintain an office in Cairo for the entire duration of the Contract and shall establish and maintain for the construction period an office at the Site at which offices notices may be validly served upon him. The Contractor shall notify the Employer and the Engineer in writing of the address of the office in Cairo and of any change thereof and the Employer and the Engineer shall not be bound to take notice of any change of address until it has been so notified. The said offices shall be deemed to be the legal domicile in Egypt of the Contractor and shall be kept open at all customary hours to receive instructions, notices or other communications unless otherwise agreed from time to time in writing between the Employer or the Engineer and the Contractor.

All notices etc. which are left against signature at or sent by registered post to the said offices shall be deemed to be validly served upon the Contractor. Every letter sent by registered post shall be deemed to have arrived in the due course of post until the contrary is proved.

Service of Notices on Employer or Engineer

68.(2) Any notice to be given to the Employer or the Engineer under the terms of the Contract unless otherwise agreed from time to time in writing shall be served by sending the same by registered post to or leaving the same against signature at the Employer's and the Engineer's offices respectively in Cairo or at the Site. The

Engineer will notify the Contractor in writing of the above-mentioned addresses and of any changes thereof.

Taxation

73. The Contractor shall be responsible for the application and payment of all taxation or dues imposed on the Contractor, any of his employees working in the project or the Sub-contractors according to the Egyptian Laws and regulations.

Trainees

74. The Contractor should arrange for the travel of 5 (five) Civil Engineers, 4 (four) Electrical Engineers, 2 (two) Mechanical Engineers who are nominated by the Employer, to visit similar projects, their method of operations and maintenance in the Contractor's Country or in any other Country.
Each trip would last three weeks.
All their expenses , hotel fullboarding, transportation should be on the Contractor's charge including the international travels.

Fees to Agents

75. No fees to either bonafide established commercial or selling agencies maintained by Contractor shall be payable by the Employer either in local currency or foreign currency. Notwithstanding, Contractor shall, within 30 calendar days from the date of signing of the Contract notify the Employer of all sums to be reimbursed either to bonafide commercial or selling agencies, brokers or to any other person, as fees, whatever the nature of the fees may be arising from or in connection with the execution of the Contract. If Contractor fails to make this notification, Contractor shall be jointly and severally responsible and liable with the said party(ies) who received the fees to pay tax penalties and any remuneration which may become due. These fees must be deposited to their

account in one of the operative banks in A.R.E. which is subject to the Central Bank supervision in the currency in which the parties have agreed upon.

Contract Coming Into Force

76. This Contract comes into force upon being signed by the Employer and the Contractor.

- Contractual completion time starts 30 (thirty) days after the Contract comes into force.
- The following conditions will be fulfilled:

a) The down payment for the Egyptian pounds portion shall be effected as follows:

1 - 7.5 (seven point five) percent within 45 days from signing the Contract, against a letter of guarantee.

2 - 7.5 (seven point five) percent within 90 days from signing the Contract, against a letter of guarantee.

b) The down payment for the foreign portion shall be effected within 8 (eight) months from signing the Contract, against a letter of guarantee.

- The unconditional advance payment letters of guarantees should be submitted to the Employer in the same values and currencies. These letters of guarantees shall be endorsed by an approved Egyptian Bank.
- These advance payments shall be deducted prorata from each following invoice.

(c) The deferred foreign portion shall be paid through the long term loan(s) agreement that shall be put into effect within 8 months from signing the Contract .

(d) However, if these conditions (b) or (c) are not met within 15 (fifteen) months, counted from the date of Contract signing, Employer and/or Contractor shall be free to terminate the Contract after notifying the other party within 45 (fortyfive) days from the date of expiration of the above mentioned 15 (fifteen) months.

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1- Contract agreement and its Annexes from No 1 to No 7

2- Appendix to the Contract Agreement containing texts of agreed subjects arising from the pre-award [illegible] pre-[illegible] meetings

3- Volume I part II Conditions of Contract (Conditions of particular applicatio

4- Volume I part I Conditions of Contract (general conditions)

5- Volume II Technical specifications (II A, II B, II C)

6- Technical Data Sheets 7- Drawings 8- Bill of Quantities

1. GENERAL

9- The offer of the contractor and the letter of acceptance.

A. The Conditions of Contract together with the Specifications, Schedules and Drawings shall be read in conjuction with the Bill of Quantities and in so far as they have any bearing shall be referred to for details of the description, quality, testing and strength of material and equipment used an the workmanship conditions, obligations, liabilities and instructions generally which shall be complied with in carrying out this Contract. The cost of complying with all conditions, obligations and liabilities referred to in the Documents mentioned hereabove, including all overhead charges and profit and carrying out the work described in or reasonably to be inferred from the said Documents shall be deemed to be spread over and included in the prices and sums stated in the Bill of Quantities by the Contractor.

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The prices and rates inserted in the Bill of Quantities are to be the full inclusive value of the work described under the several items and shall cover, by way of illustration but not limitation, the cost of all labour, subsistance and travelling, material, temporary works, constructional plant, watching and lighting, the cost of all work stated in the Documents as being included in the rates, overhead charges and any other costs whatsoever together with the all risks, liabilities and obligations set forth or implied in the Documents.

The price and rate for each item be binding throughout the contract and shall not be subject to revision on account of discrepancies in the quantities or weight or any other cause.

The prices and rates always apply to work actually carried out and complete all to the satisfaction of the Engineer.

B. Notwithstanding any limits which may be implied by the wording of the individual items and explanations in this Preamble, in the Bill of Quantities, the rates and prices must include for incidentals and contingent expenses and risks of every kind necessary to complete the works in every respect and maintain them, all in accordance with the Contract Documents. The Contractor shall have no claim for further payment in respect of any work or method of execution which may be described in the Contract although apparently no corresponding item is given in the Bill of Quantities. The rates for items in the Bill of Quantities for units of composite work of construction and workmanship shall provide for the completion of all component parts, although they may not be specifically described in the items or General Directions or otherwise.

The cost of dealing with the water and diversion of service is held to be included in the rates of the Bill of Quantities.

C. The Contractor's attention is drawn to the fact that the quantities set out in the Bill of Quantities are provisional only and they are not to be considered as limiting or extending the amount of work to be done by the Contractor. The work as completed shall be re-measured and paid for as described in the Conditions of Contract, Specifications and the Bill of Quantities hereafter at the rates or sum affixed to the Items herein and the Contract Price shall be adjusted accordingly.

Any duty shown on the drawings and not included in the Specifications, or included in the Specifications and not shown on the drawings, and which has not been quoted in the Bill of Quantities, is deemed to be spread over the Bill of Quantities and included in the other items. The Contractor is nevertheless at liberty to quote the cost of such a duty in a special item in Bill No. 25.

D. The Contractor is referred to the Preamble of the Bill of Quantities regarding measurement and pricing of the various items in the Bill of Quantities, but the Preamble shall be read in conjunction with other Documents referred to in 'A.' above.

E. Each item shall be priced and extended to the 'Amount' column by the Contractor with the exception of the items which already have provisional sums affixed thereto. If the Contractor omits to price any items in the Bill of Quantities then the cost of the work of such items shall be held to be spread over and included in the prices given for the other items of work.

F. The Contractor shall be deemed to have visited the Site before preparing his tender and to have examined for himself the Conditions under which the work will proceed and all other matters affecting the cost of the works.

G. The method described in the Bill of Quantities and elsewhere in the Contract for measurement and payment of the works may differ from the methods actually used by the Contractor and authorised by the Engineer for carrying out the work; the method of measured and payment described in the Contract and considered in the Bill of Quantities shall nevertheless be used for evaluation of the work carried out by the Contractor.

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For instance, if the Contractor is authorised for his convenience to excavate a larger volume than is shown in the drawings, the excavation shall be measured only in the solid to the payment lines shown in the drawings, and the Contractor shall, at his own expense, carry out the necessary back filling.

In the same manner, if with the permission of the Engineer the Contractor uses precast concrete instead of cast in situ concrete, or vice versa, the Contractor will be paid on the basis of the item shown on the drawings and not on the basis of the rates and measurements corresponding to the methods of work actually utilised.

H. Regarding equipment, the Contractor's attention is drawn to the fact that the Extent of Contract shall be understood as comprising also the detailed design and establishment of the fabrication drawings, manufacture, transport and delivery to Site, completion, setting to work and maintenance of the works and the provision of all labour, materials, Contractor's equipment and everything whether of temporary or permanent nature, required in and for such manufacture, testing, transport and delivery to Site, erection, completion, setting to work and maintenance.

It shall also comprise the services of qualified representative(s) of the supplier(s) of Equipment or adviser(s) to assure proper erection of the Equipment.

It shall also be understood that the Contractor shall furnish to the Employer before the works are taken over, operating and maintenance instructions together with such descriptions and drawings (other than shop drawings) of the works as completed in sufficient detail to enable the Employer to maintain, dismantle, reassemble and adjust all parts of the works. The works shall not be considered to be completed until such instructions and drawings have been supplied to the Employer. The documents hereabove stated are to be submitted to the Engineer for approval and approved by him before they are supplied to the Employer.

I. Regarding equipment the sum of the prices stated for such individual sub-item for each section in the breakdown of prices shall be equal to the price stated for the relevant item and shall represent fall compensation to the Contractor for all obligations of the relevant section of the specifications.

J. The Contract sum part equipment covers an integrated self sufficient package for the power plant, the spillway, the navigation lock, the new switchgear on the bank, the extension of the existing Esna substation and the electrical transmission lines as well as all the necessary connections between the various parts of the scheme.

The Contract sum part equipment covers all auxiliaries and ancillaries necessary for proper operation of the scheme as well as all embedded parts, rails, liners, fixed parts, beams, plates, anchor bolts, flanges and counter flanges.

The work not covered by the Contract sum part equipment includes and is limited to:

- all civil structures,
- ladders, rungs, stairs, handrails and guardrails no attached to the equipment,
- embedded pipes for dewatering, drainage and raw water supply,
- embedded sleeves for electrical cables and wirings.

K. Schedule of payment for equipment applicable to Divisions 14, 15, 17*, 18

Controlling event	CIF Alexandria price (Foreign currency)	Local transport (Egyptian pounds)	Erection (Egyptian pounds)	Erection (Foreign currency)
First instalment at award of Contract	10%			
After approval by Engineer of all the civil works guide drawings (embedded and fixed parts, etc.)	7%			
After approval by Engineer all the equipment manufacturate drawings	13%			
After procurement of 90% of raw materials and standard products	25%			
After submital of shipping documents	40%			
Site delivery	5%	100%		
Start of erection			10%	10%
Progress payment according to actual progress of erection			90%	90%

REMARK : This schedule of payment is not applicable : see Contract Agreement.

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* Except for Sub-item 17.240.04 Hydraulic turbines model test for which:
- 10% of the Sub-item price will be paid at Contract award,
- 80% at Certificate of approval model test report,
- 5% after issuance of the certificate of completion by stage,
- 5% after issuance of the certificated completion of the works.

Remark: This schedule of payment is not applicable: see Contract Agreement.

L. Schedule of payment for equipment applicable to Divisions 16, 19, 20

Controlling event	CIF Alexandria price (Foreign currency)	Local transport (Egyptian pounds)	Erection (Egyptian pounds)	Erection (Foreign currency)
First instalment at award of Contract	10%			
After approval by Engineer of all the civil works guide drawings (embedded and fixed parts, etc.)	7%			
After approval by Engineer of all the equipment manufacturate drawings	13%			
After purchase order 90% of raw materials and standard products	15%			
After submital of shipping documents	50%			
Site delivery	5%	100%		
Start of erection			10%	10%
Progress payment according to actual progress of erection			90%	90%

REMARK : This schedule of payment is not applicable : see Contract Agreement.

1.1 DEFINITIONS

Where the word 'Provide' is used and a sum is inserted by the Engineer to cover the cost of any particular item of work, the sum inserted shall be dealt with in accordance with Clause 59 of the Conditions of Contract unless otherwise directed.

1.2 GENERAL OBLIGATIONS

The amounts to cover the cost of performance guarantee, insurance, temporary work, site installation, mobilisation and demobilisation are deemed to be included in and spread over the Bill of Quantities.

Reference Clauses 10, 19, 21 and 43 of the General Conditions.

1.3 MEASUREMENT OF WORKS

The measurement of the works shall be done per item in the manner defined hereinafter. To each item corresponds a rate in the Bill od Quantities, and a work or works defined in a Clause or Clauses in Volume II, the reference of which is given at the end of the item description.

1.4 WORKS INCLUDED IN THE BILLS 1 TO 13

1.4.0 Bill No. 0

This bill includes the portion in Italian Liras of:

(i) items 102 and 103 of bill No.1 General Items.
(ii) item 1038 of bill No.2 Geotechnical investigations
(iii) and 2% of above items (i)+(ii) as specified in part C as day works.

1.4.1 Bill No.1 - General items

This bill includes the portions in Egyptian Pounds and USA Dollars of the general items 101, 102 and 103.

1.4.2 Bill No.2 - Geotechnical investigations

This bill includes the portions in Egyptian Pounds and USA Dollars of the geotechnical investigations for the temporary cofferdam and the permanent structures.

1.4.3 Bill No.3 - Temporary cofferdam and dewatering

This bill includes the construction of the temporary cofferdam with its slope protections, the construction of the temporary diaphragm wall, the dewatering and the demolition of the cofferdam.

1.4.4 Bill No.4 - Earthworks and protections

This bill includes excavations for structures and common excavations inside the cofferdam, the excavations outside the cofferdam, the backfills and embankments construction and compaction including lock groynes, the construction of all protections except those for cofferdam and closure dyke.

Embankment construction for roads is covered in bill No.5.

Closure dam construction is covered in bill No.9.

1.4.5 Bill No.5 - Road and tracks

This bill includes the construction of embankment, base course, asphalt pavement, surface finish and details for roads including those on concrete structure.

1.4.6 Bill No 6 - Navigation lock

The concrete structures included in bill No 6 are:

- the navigation lock itself,
- the upstream and downstream guide walls,
- the upstream and downstream wing walls,
- the connecting structure between lock and power plant.

Dolphins, mooring posts, inlet and outlet fenders, gangways, miscellaneous details and works to be performed on the present Esna lock are included.

Filter layers, drains and transition under concrete structures of this bill are also included.

1.4.7 Bill No 7 - Power plant

The concrete structures included in bill No 7 are:

- the power plant itself,
- the assembly bay with its upstream and downstream dividing walls,
- the connecting structure between power plant and spillway as shown in cross section A drawing NE 25 with its upstream and downstream dividing walls.

Filer layers, drains and transition under the concrete structures of this bill are also included.

1.4.8 Bill No 8 - Spillway

The concrete structures included in bill No 8 are:

- the spillway itself,
- the connecting structure between spillway and closure dam (caisson and retaining wall).

Filter layers, drains and transition under the concrete structures of this bill are also included.

1.4.9 Bill No 9 - Closure dam

This bill covers the construction of the closure dam including slope protections.

1.4.10 Bill No 10 - Permanent diaphragm wall

This bill includes the construction of the permanent diaphragm wall with its key trench for all concrete structures, the closure dam and the river banks.

1.4.11 Bill No 11 - Ground treatment

The bill is presented as follows:

- Bill 11a - Basic solution

  In the basic solution the lock is founded on strip piles and in all the other areas when soil treatment is required (see drawing NE 07) the method of treatment is vibroflotation.

- Bill 11b - Alternative No 1

  In this alternative, vibroflotation is the unique type of soil treatment, the lock itself being also founded directly on vibrofloted soils.

- Bill 11c - Alternative No 2

  In this alternative, heavy tamping is the unique type of soil treatment in all the areas where soil treatment is required (see drawing NE 07) including the lock itself.

1.4.12 Bill No 12 - Monitoring

This bill includes the two items devoted to monitoring.

1.4.13 Bill No 13 - Buildings

This bill includes all the items devoted to buildings.

1.5 BREAKDOWN OF PRICES

دیباچه ـ مقدمه

See instructions for filling the breakdown of prices in the preamble of chapter 'Breakdown of prices'.

2. GENERAL ITEMS (series 100)

Item 101 - Offices, housing and services to Employer and Engineer

Lump sum

This item will cover:

- offices ~~and housing~~ for the Employer and Engineer,
- services provided for the Employer and Engineer including transport, assistance and topographical equipment.

Reference II-1-21; II-1-22.

Item 102 - Detailed design and working drawings

Lump sum

Reference I-2.

3. EARTHWORKS (series 200)

Item 201 - Excavation for structures inside the cofferdam

Mean lump sum per cubic metre of excavation inside the cofferdam measured from the original ground level to the lines defined on the drawing No. NE-04 and 05 'Excavation for structures'. The cofferdam is defined by its axis as shown in drawing NE-06.

This item shall cover the followings:

- Clearing, grubbing and stripping the ground surface under the area concerned by the excavation for structure;
- Excavation carried out either under water or not;
- Transportation of the materials, inside the site reserve limit, to the designated final locations to embankments, to temporary stockpiles or to spoil banks including placement operations;
- Temporary supporting structures as shown in drawings NE-04 and 05;
- The placing of all marks, gauges necessary to show the limits of the excavation;
- Checking of the profiles lines.

34.134

This item applies to removal of material unsuitable for foundations as ordered by the Engineer.

There will be no extrapayment for any extra excavation executed for the convenience of the contractor.

Reference II-5-2.

Item 202 - Common excavation inside the cofferdam

Mean lump sum per cubic metre of common excavation inside the cofferdam measured from original ground level to the lines defined on the drawings. Common excavation concerns all excavations, performed inside the cofferdam including ditches, except excavations for structures defined on the drawings No NE 04 and 05 and trench excavations. The cofferdam is defined by its axis as shown in drawing NE 06.

This item will be deemed to cover the followings:

- Clearing, grubbing and stripping the ground surface under the area concerned by the common excavation;
- Excavation carried out either under water or not;
- Transportation of the materials, inside the site reserve limit, to the designated final locations, to temporary stockpiles or to spoil banks including placement operations;
- The placing of all marks, gauges, buoys necessary to show the limits of the excavation;
- Checking of the profiles lines.

There will be no extrapayment for any extra excavation executed for the convenience of the contractor.

Reference II-5-2.

Item 203 - Common excavation outside the cofferdam

Mean lump sum per cubic metre of common excavation outside the cofferdam measured from original ground level to the lines defined on the drawings. Common excavation concerns all excavations, carried out outside the cofferdam axis; this axis being defined in drawing NE 06.

This item will be deemed to cover the followings:

- Clearing, grubbing and stripping the ground surface under the area concerned by the common excavation;
- Excavation carried out either under water or not, including excavation performed for river banks protection;
- Demolition of the temporary cut-off and transportation to the spoil bank of the materials;
- Transportation of the materials, inside the site reserve limit, to embankments, to temporary stockpiles, to spoil banks or to the closure dam including placement operations but not compaction;
- The placing of all marks, gauges, buoys necessary to show the limits of the excavation;
- Checking of the profiles lines.

There will be no extrapayment for any extra excavation executed for the convenience of the contractor.

Depending on the final location of the material inside the site limit, item 203 will be split in:

- Item 203a: material transported and placed in temporary stockpile embankment, spoil bank or closure dam above el. 75.
- Item 203b: material transported and placed in the closure dam under el. 75.

. Reference II-5-2.

Item 204 - Trench excavation

Mean lump sum rate per cubic metre of excavation for building footing, pipe trench, inlet and outlet drainage pipe structure, and key trench under structure for plastic concrete seal.

This item does not apply to the ditches.

The volume will be measured as the product of the length by the mean vertical depth by the width of the trench. The length will be taken as the distance on the longitudinal profile or as shown on the drawings. The depth will be measured down to the bottom of the trench as directed. The width will be as shown on the drawings or in the case of concrete structure, it will be the width of the cavity measured being that which would be defined if the structures were lifted out vertically. No measurement will be taken for local extra excavation for the purpose of installing joints on otherwise and their cost is held to be included for in the rates tendered for trench excavations.

Timber and dewatering shall be included in this item, so as the transportation of the materials, inside the site reserve limit, to the designated final locations, to temporary stockpiles or to spoil banks including placement operations.

Item 205 - Preparation of structure foundations

Mean lump sum rate per square metre of preparation of structure foundations, specified by the Engineer, measured as the surface of prepared foundations projected on a horizontal plan.

Reference II-5-2-4.

Item 206 - Preparation of ground surface under compacted embankment

Mean lump sum rate per square metre of preparation of ground surface under compacted embankment, specified by the Engineer, measured as the surface of prepared ground projected on a horizontal plan.

This item will cover the clearing, grubbing, stripping and compaction of the ground surface under the area concerned by the compacted embankment.

Reference II-5-3-3.

Item 207 - Backfill compaction at 70% DR

Mean lump sum rate per cubic metre of compacted backfill at more than 70% DR or more than 95% OPM measured from the ground level to the prescribed lines, grades and dimensions shown on the drawings.

Item 207 applies to compaction with rollers. Soil compaction obtained by special soil treatment is covered in serie 900.

Reference II-5-3-6.

Item 208 - Backfill compaction at 75% DR

Mean lump sum rate per cubic metre of compacted backfill at more than 75% DR or more than 97% OPM measured from the ground level to the prescribed lines, grades and dimensions shown on the drawings.

Item 208 applies to refill of excavation of material unsuitable for foundations of structure as ordered by the Engineer but does not apply to backfill of any excavation executed for the convenience of the Contractor.

Item 208 applies to compaction with rollers. Soil compaction obtained by special soil treatment is covered in serie 900.

Reference II-5-3-6.

Item 209 - Embankment compaction at 70% DR

Mean lump sum rate per cubic metre of compacted embankment at more than 70% DR or more than 95% OPM measured from the prescribed lines, grades, slopes and dimensions shown on the drawings or established by the Engineer to the ground level minus 20 (twenty) centimetres in order to take account of the layer of top soil removed before construction of the embankment.

This item will cover all contingencies for the trial embankment performance.

Item 209 applies to compaction with rollers. Soil compaction obtained by special soil treatment is covered in serie 900.

Reference II-5-3-6.

Item 210 - Embankment compaction at 75% DR

Mean lump sum rate per cubic metre of compacted embankment at more than 75% DR or more than 97% OPM measured from the prescribed lines, grades, slopes and dimensions shown on the drawings or established by the Engineer.

Item 210 applies to compaction with rollers. Soil compaction obtained by special soil treatment is covered in serie 900.

Item 210 applies to the closure dam embankment between el. 75 and 82.

This item will cover all contingencies for the trial embankment performance.

Reference II-5-3-6.

Item 211 - Trench compaction

Mean lump sum rate per cubic metre of material compacted. The volume will be the net volume compacted as shown on the drawings or as directed.

The rate includes the selection of material and the compaction.

Item 212 - Backfill material from temporary stockpiles

Mean lump sum rate per cubic metre of backfill material coming from temporary stockpiles measured as the volume of the excavation backfilled from the ground level to the prescribed lines, grades, slopes and dimensions shown on the drawings or established by the Engineer.

This item will cover loading, transportation and placement of the materials, inside the site reserve limit, from temporary stockpiles to the designated final locations including placement operations.

This item will not cover compaction which will be covered by the item 207 or 208.

This item applies only when the material from excavation is unsuitable for backfilling or when approved by the Engineer.

This item does not apply to backfill of any excavation executed for the convenience of the Contractor.

Reference II-5-3-5-2.

Item 213 - Embankment materials from temporary stockpiles (placed in in the dry)

Mean lump sum rate per cubic metre of embankment materials from temporary stockpiles measured from the prescribed lines, grades, slopes and dimensions shown on the drawings or established by the Engineer to the ground level minus 20 (twenty) centimetres in order to take account of the top soil layer removed during the preparation of ground surface (item 206).

This item will cover loading, transportation and placement of the materials in the dry, inside the site reserve limit, from temporary stockpiles to the designated final locations including placement operations.

This item will not cover compaction which will be covered by the item 209 or 210.

This item applies only when the material from excavation is unsuitable for embankment or when approved by the Engineer.

If caissons filling with sands from temporary stockpile is required by the Engineer, it will be covered by this item.

Reference II-5-3-5-2.

Item 214 - Embankment material from temporary stock pile placed under water in the closure dam

Mean lump sum rate per cubic metre of embankment material from temporary stockpiles placed under water in the closure dam measured after compaction from the prescribed lines grades, slopes and dimensions shown on the drawings or established by the Engineer to the ground level.

This item shall cover excavation of the stockpile, loading, transportation and deposition under water to the designated final locations inside the site limits. The rate includes the selection of material suitable for placement under water but does not include compaction.

Reference II-5-3-5-2.

Item 215 - Transition layer T1

Mean lump sum rate per cubic metre of transition layer type T1. Volumes for payment will be calculated on the basis of the specified thickness.

This item will cover furnishing, delivery, handling and placing. When compaction is required, it will be covered by item 208.

Reference II-5-4-1.

Item 216 - Transition layer T2

Mean lump sum rate per cubic metre of transition layer type T2. Volumes for payment will be calculated on the basis of the specified thickness.

This item will cover furnishing, delivery and placing. When compaction is required, it will be covered by item 208.

Reference II-5-4-2.

Item 217 - Transition layer T2 for the closure dam

Mean lump sum rate per cubic metre of transition layer type T2 placed under water in the closure dam. Volumes for payment will be calculated on the basis of the specified thickness.

This item will cover furnishing, delivery and placing under water.

Reference II-5-4-2.

Item 218 - Transition layer T3

Mean lump sum rate per cubic metre of transition layer type T3. Volumes for payment will be calculated on the basis of the specified thickness.

This item will cover furnishing, delivery and placing. When compaction is required, it will be covered by item 208.

Reference II-5-4-3.

Item 219 - Rip-rap type A

Mean lump sum rate per cubic metre of rip-rap type A. Volumes for payment will be calculated on the basis of the specified thickness.

This item will cover furnishing, delivery and placing.

Reference II-5-5.

Item 220 - Rip-rap type B

Mean lump sum rate per cubic metre of rip-rap type B. Volumes for payment will be calculated on the basis of the specified thickness.

This item will cover furnishing, delivery and placing.

Reference II-5-5.

Item 221 - Rip-rap type C

Mean lump sum rate per cubic metre of rip-rap type C. Volumes for payment will be calculated on the basis of the specified thickness.

This item will cover furnishing, delivery and placing.

Reference II-5-5.

Item 222 - Pit run gravel for embankments in the dry

Mean lump sum rate per cubic metre of pit run gravel measured after compaction from the prescribed lines, grades, slopes and dimensions shown on the drawings or established by the Engineer to the ground level minus 20 (twenty) centimetres if stripping of top soil is required or to the ground level if stripping is not required.

This item will cover loading, processing (if necessary) to fulfil the specification, transportation and placement in the dry.

This item will cover embankment for lock guiding groynes when constructed in the dry. It will also cover the filling of the concrete caissons.

This item will not cover compaction which will be covered when required by item 210.

Reference II-5-3-5-3/

Item 223 - Pit run gravel for embankments under water

Mean lump sum rate per cubic metre of pit run gravel measured after compaction from the prescribed lines, grades, slopes and dimensions shown on the drawings or established by the Engineer to the ground level.

This item will cover processing (if necessary) to fulfil the specification, loading, transportation, placement under water and compaction. For payment purposes water level will be considered at el. 75.

This item will cover embankment for lock guiding groynes when constructed under water. It will not cover caissons filling.

Reference II-5-3-5-3 and II-5-3-6-3.

Item 224 - Caissons filling with pit run gravel

Mean lump sum rate per cubic metre of pit run gravel placed in the concrete caissons of the connecting structures.

Measurements will be made within the lines and dimensions shown in the drawings.

This rate covers processing (if necessary) to fulfill the specification, transportation and placement in the caissons.

Reference II-5-3-5-3.

Item 225 - Caissons filling with sands from temporary stock piles

Mean lump sum rate per cubic metre of sands from temporary stock pile placed in the concrete caissons of the connecting structures if required by Engineer.

Measurements will be made within the lines and dimensions shown in the drawings.

The rate covers selection of materials, loading and transportation and placement in the caissons.

Reference II-5-3-5-2

Item 226 - Rockfill for river closure

Mean lump sum rate rate per cubic metre of rockfill measured within the prescribed lines, grades, slopes and dimensions shown on the drawings.

This item will cover furnishing, delivery and placing.

Reference II-5-6.

Item 227 - Overhaul

Extra cost on item 201, 202, 203, 204, 212, 213 and 214 for overhaulage per cubic metre for each hundred metres overhaul beyond the site reserve limits included in the rates 201, 202, 203, 204, 212, 213 and 214. The distance shall be measured as the straight line distance between centre of gravity of cut and fill minus the straight line distance inside the site reserve limit.

No overhaul will be applied on rates 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 226.

Reference II-5-1-2.

Item 228 - Demolition of temporary cofferdam

Mean lump sum rate per cubic metre of temporary cofferdam including slope protections measured from the prescribed lines, grades, slopes and dimensions shown on drawing NE-06 or established by the Engineers to the initial ground level.

This item will cover demolition, loading and transportation to spoil bank.

Reference II-3-1-4.

4. ROAD AND TRACKS (series 300)

Item 301 - Base course

Mean lump sum rate per cubic metre of base course material measured after compaction within the prescribed lines, grades, slopes and dimensions shown on drawing NE-39.

This item will cover processing, loading, transportation, placement and levelling.

This item will not cover compaction which will be covered by item 208.

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No overhaul will apply to this item.

Reference II-5-9-1.

Item 302 - Asphalt pavement on concrete structure

Mean lump sum rate per square metre of asphalt pavement including tack coat layer, perforated Kraft paper, asphalt layer and wearing course.

This item will cover furniture, placement operations, compaction of wearing course, finishing and surfacing.

Reference II-5-9-8.

Item 303 - Asphalt pavement on base course

Mean lump sum rate per square metre of asphalt pavement on base course including cut back and wearing course.

This item will cover furniture, placement operations, compaction of wearing course, finishing and surfacing.

Reference II-5-9-1.

Item 304 - Surface finish for service road

Mean lump sum rate per square metre of service road including hanowing, spraying of crude oil and recompaction.

Reference II-5-9-2.

Item 305 - Road ditch

Mean lump sum rate per linear metre of ditch as shown on the drawing or directed by the Engineer.

Necessary works, as drainage pipe culverts, shall be paid under other items according to the works performed.

Reference II-5-9-6.

Item 306 - Kerbing

Mean lump sum rate per linear metre of kerbing casted and placed for footway, gravel surfacing or roadway:

- on concrete structures,
- on embankment.

Reference II-5-9-9.

Item 307 - Precast concrete lateral protections

Unit rate per precast concrete lateral protection for roadway on closure dam as shown in drawing. The rate includes furniture and placing.

Reference II-5-9-10.

5. CONCRETE (series 400)

A. In the measurement of concrete no deduction will be made for rebates and chamfers, less than 10 cm x 10 cm, for bolt holes, sinkages for fitting ironwork and the like, 4 dm^2 or less in cross section, nor for reinforcement, nor for pipes 20 cm or less in inside diameter.

B. Measurement of concrete will be made in the solid to the payment lines which are the lines indicated in the drawings as the permanent faces of the Concrete Structures.

C. No separate payment will be made for embedding mortar or grouting. Measurement of Concrete will be made as stated in above § B. and any overcosts are held to be included in relevant items of embedded equipment.

Reference II-6-21.

D. Concrete for construction joint shall not be paid separately and is deemed to be spread over the rates for concrete.

Reference II-6-07.

Item 401 - Blinding concrete class 250/25

Mean lump sum rate per square metre of blinding concrete 250/25.

Blinding concrete shall be paid per square metre measured along the relevant payment lines of the excavation within the limits shown on the drawings in respect of blinding concrete (minimum thickness 0.10 m).

Reference II-6-13.

Item 402 - Concrete class 250/50

Mean lump sum per cubic metre of concrete class 250/50.

Reference II-6-02.

Item 403 - Concrete class 300/50

Mean lump sum rate per cubic metre of concrete class 300/50.

Reference II-6-02.

Item 404 - Concrete class 350/25

Mean lump sum rate per cubic metre of concrete class 350/25.

Reference II-6-02.

Item 405 - Concrete class 400/15

Mean lump sum rate per cubic metre of concrete class 400/15.

Reference II-6-02.

Item 406 - Concrete class 400/25 for strip piles

Mean lump sum rate per cubic metre of concrete class 400/25 for strip piles. For this item, the unit rate does not cover the concreting operation which will be paid separatly under item 806. Volumes for payment will be as defined in item 904.

Reference II-6-02.

Item 407 - Concrete admixtures

Mean lump sum rate per kilogramme of the following concrete admixtures:

- air entraining admixture,
- water reducing admixture,
- retarding admixture,
- non-shrinkage admixture.

These items shall cover all preliminary trial mixes a tests and all equipments necessary to the addition of such admixtures in the concrete.

Reference II-6-06.

Item 408 - Screeded finish for unformed surface

Mean lump sum rate per square metre of unformed surface finish with screed.

Reference II-6-20-a.

Item 409 - Floated finish for unformed surface

Mean lump sum rate per square metre of unformed surface finish by floating.

Reference II-6-20-b.

Item 410 - Precast concrete side walk cantilever

Mean lump sum rate per linear metre of precasted side walk cantilever

This item includes shuttering, concreting, carrying, placing and levelling of the elements.

This item shall not cover the reinforcing steels.

Reference II-6-22.

Item 411 - Precast concrete slabs

Mean lump sum rate per square metre of precast concrete slabs shown on the drawings for the following thickness:

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thickness 10 cm

- thickness 15 cm,
- thickness 20 cm.

These items shall cover shuttering, concreting, handling device, carrying, placing of the slabs.

This item shall not cover the reinforcing steels.

Reference II-6-22.

6. REINFORCEMENT (series 500)

Reinforcement will be measured according to the weight calculated from the drawings and bar bending schedules; weight will be calculated at the rate of 7.85 kg per cubic decimetre. No allowance will be made for dropped cuttings, binding wires and other material required for binding or supporting the reinforcement. Where special supports are required to top reinforcement, they should be shown on the drawings and bar bending schedules and shall be measured.

Two types of reinforcement are provisionally foreseen (item 501 and 502); should the Contractor propose to use other quality of steel, he shall also quote in Bill No. 25 the extra price or extra prices for the reinforcement of the quality or qualities he proposes to use (deformed bar, high tensile steel, etc.).

References II-1-09-3-1(b), II-4-4, II-8.

Item 501 - Plain reinforcement bars

Mean lump sum rate per kilogramme of plain bars having a yield strength of 420 MPa (60 000 psi).

Reference hereabove.

Item 502 - Deformed bars

Mean lump sum rate per kilogramme of deformed bars having a yield strength of 4 200 kg/cm^2 (60 000 psi).

Reference hereabove.

Item 503 - Welded steel-wire fabric

Mean lump sum rate per kilogramme of high tensile strength welded steel-wire fabric having a yield strength of 420 MPa (60 000 psi) including placing, fastening and all contingencies.

7. FORMWORK (series 600)

A. Formwork will be measured as the area in square metres of the formed concrete surface under the appropriate items according to category as specified on the drawings. No measurement of recesses, rebates, chamfers and the like will be made where no reduction is made in the measurement of concrete (refer to § 5 A. 'Concrete') and the formwork will be measured as if the shuttered face were continuous.

B. Horizontal formwork will apply to bridges, slabs, beams.

Reference II-7.

Item 601 - Formwork class 0 - Plane

Item 602 - Formwork class 0 - Plane

Item 603 - Formwork class I - Horizontal

Item 604 - Formwork class I - Curved

Item 605 - Formwork class II - Plane

Item 606 - Formwork class II - Curved

Item 607 - Formwork class II - Horizontal

Item 608 - Formwork for hydraulic conduits of the power plant

Mean lump sum rate per square metre of formwork class II without any consideration of position and shape.

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This item applies from turbine axis to the downstream end of the draft tube.

8. JOINTS (series 700)

Item 701 - Waterstop

Mean lump sum rate per linear metre of waterstop measured on the drawings along the waterstop.

The item covers supply and placing, including materials and equipments necessary to provide a continuous watertight system.

Reference II-4-13.

Item 702 - Expansion joint filler

Mean lump sum rate per square metre of expansion joint filler measured on the drawings.

This item covers supply and installation.

Reference II-4-06.

Item 703 - Joint sealing compound

Mean lump sum rate per square metre of joint sealant measured on the drawings along the apparent face of the sealing.

This item covers supply and installation of joint sealant, including bond breaker and back up.

Reference II-4-07.

Item 704 - Joint coverstrips

Mean lump sum rate per linear metre of joint coverstrips measured on the drawings along the apparent face of joint.

This item covers supply and installation of joint coverstrips.

Reference II-12-09.

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Item 705 - Bridge deck expansion joint system

Mean lump sum rate per linear meter of joint system measured on the drawing.

This item covers supply and installation including materials and equipments necessary to provide the continuity of the road pavement.

The bridge deck expansion joint system shall be of the following types:

a) Light type: reference II-12-10-1;

b) Heavy type: reference II-12-10-2.

9. WATERTIGHT DIAPHRAGM WALLS (series 800)

9.1 GENERAL

For the construction of the temporary and permanent watertight diaphragm walls, the mobilisation and demobilisation of the necessary equipment will not be covered under a special item. These are deemed to be spread over items of series 800.

9.2 TEMPORARY DIAPHRAGM WALL

801

Item ~~801~~ - Temporary diaphragm wall and dewatering

Mean lump sum rate per square metre of temporary diaphragm wall. The height will be defined as the distance between el. 75.50 and the elevation of the base of the 2 m socket in the hard to very hard clays. The length will be the perimetre length as shown in drawing NE-06.

This item will cover:

- Building of guide walls; ✓
- Supply of self hardening grout including all losses; ✓
- Excavation under self hardening grout in any type of soil. ✓

It will also cover the cost of excavation dewatering including supply, installation, maintenance and operation of the dewatering system as long as dewatering is necessary for construction operations.

The Contractor is allowed to increase the embedment of the temporary diaphragm wall in the hard to very hard clays but payment will remain based on the 2 metre penetration criteria for surface evaluation.

References II-3-1-2, II-3-2-3, II-3-2-4, II-3-2-5.

9.3 PLASTIC CONCRETE PERMANENT DIAPHRAGM WALL

Item 802 - Building of guide walls for permanent diaphragm walls

Mean lump sum rate per linear metre of plastic concrete diaphragm wall.

This item will cover excavation, shuttering, reinforcement if any and concreting.

Reference II-9-3-5.

Item 803 - Excavation in silt, sand, gravels and cobbles

Mean lump sum rate per square metre of excavation under bentonitic mud in 0.80 m width in silts, sand, gravels and cobbles.

The excavated length will be measured along the diaphragm wall axis as shown in drawing NE-30.

The excavated height will be defined as follows:

- Under structures: distance between raft underface minus 0.80 m and top of hard clay layer;
- In the closure dam: distance between elevation 81 and top of hard clay layer;
- In the river bank: distance within lines as shown on drawing NE-30.

This item will cover excavation, preparation and supply of bentonitic mud including all mud losses and transportation of excavated material to spoil bank.

Reference II-9-3-6.

Item 804 - Excavation in hard to very hard clay

Mean lump sum rate per square metre of excavation under bentonitic mud in 0.80 m width in hard to very hard clays.

This item will cover excavation, preparation and supply of bentonitic mud including all losses and transportation of excavated material to spoil bank.

References II-9-3-3, II-9-3-6.

Item 805 - Plastic concrete

Mean lump sum rate per cubic metre of plastic concrete.

This item will cover the furniture of the products and the preparation of the concrete.

For the diaphragm wall the quantities will be those corresponding to the surfaces defined in items 803 and 804 and to 0.80 m theoretical thickness. There will be no additional payment for overexcavation.

For the key trench the quantities will be those corresponding to the theoretical volume of the trench as shown on the drawings minus 0.4 m^3 per linear metre (theoretical volume of wall protruding into the trench).

Reference II-9-2-6.

Item 806 - Concreting under bentonitic mud

Mean lump sum rate per cubic metre of diaphragm wall.

This item will cover the concreting operation under mud including excavation cleaning, mud regeneration and protection of top of wall against drying. It does not cover furniture of the plastic concrete.

The volume will be that corresponding to surfaces defined in items 803 and 804 and to 0.80 m theoretical wall thickness.

Reference II-9-3-7.

Item 807 - Concreting in the key trench

Mean lump sum rate per cubic metre of key trench.

This item will cover the concreting operation including over excavation and protection of top of key trench against drying. It does not cover furniture of concrete.

Volumes will be as defined in item 805.

Reference II-9-3-8.

Item 808 - Diaphragm wall head cut-off

Mean lump sum rate per linear metre of diaphragm wall.

This item will cover the diaphragm wall head cut-off preceeding key trench concreting. It includes the cut-off operation, the loading and transportation of spoils to spoil bank, the protection of the wall against drying and the preparation of lateral faces of the diaphragm wall before key trench concreting.

Reference II-9-3-8.

Item 809 - Demolition of guide walls

Mean lump sum rate per linear metre of diaphragm wall.

This item cover the demolition of guide walls and transportation to spoil bank.

It does not cover the excavation of key trench which will be paid under item 211.

Item 810 - Vertical junction with concrete structures

Mean lump sum rate per linear metre of vertical junction between plastic concrete diaphragm wall and concrete structure.

This item will cover all special pieces of equipment and field operations necessary to achieve a watertight junction.

References II-9-1-1, II-9-1-4.

Item 811 - Test wall

Mean lump sum.

Reference II-9-3-1.

10. GROUND TREATMENTS (series 900)

10.1 GENERAL

For the ground treatments the mobilisation/demobilisation of the necessary equipment will not be covered under a special item. These are deemed to be spread over items devoted to ground treatment.

Performance and interpretation of quality control tests as required in Divisions 10 and 11 will be deemed to be spread over.

10.2 STRIP PILES

Item 901 - Installation of drilling equipment on each location

Mean lump sum rate per installation on each pile location.

Item 902 - Building of guide walls for strip piles

Mean lump sum rate per strip pile.

This item will cover excavation, shuttering, reinforcement if any and concreting.

Reference II-10-5-1.

Item 903 - Excavation in sand, silt, gravels and cobbles

Mean lump sum rate per cubic metre of excavation under bentonitic mud in sand, silt, gravels and cobbles.

Excavated depth will be measured for the lock between el. 64.90 and strip pile tip elevation as required from final strip pile design. The excavated section area will be for each pile the nominal section of the strip pile. There will be no additional payment for over excavation.

This item will cover excavation, preparation and supply of bentonitic mud including all losses and transportation of excavated material to spoil bank.

Reference II-10-5.

Item 904 - Extra payment for concreting under bentonitic mud

Mean lump sum rate per cubic metre of concrete poured under bentonitic mud.

This item will cover the excavation cleaning and concrete placement operation. It is an extra payment to item 406 concrete for strip piles.

For items 904 and 406, the volumes considered for payments will be nominal volumes calculated as follows:

- Area: nominal section area of strip piles;
- Depth: distance between el. 64.30 and strip pile tip elevation as required from final strip pile design.

There will be no additional payment for overexcavation.

Reinforcements will be paid under items 501.

References II-10-6-3, II-10-6-4.

Item 905 - Steel pipes $\emptyset_i$ = 50 mm for sonic coring tests

Mean lump sum rate per linear metre of steel pipe $\emptyset$ = 50 mm for sonic coring tests.

This item will cover furnishing (including bottom plugs) and installation on the reinforcement cage.

Reference II-10-7-3-1.

Item 906 - Additional impedance test

Mean lump sum rate per unit test.

This item will cover extra tests required by the Engineer if they do not lead to refection of rejection of the pile.

The impedance tests required by the specifications will not be covered by this item. They are deemed to be spread over.

References II-10-7-3-2 and II-10-10-2.

Item 907 - Concrete coring

Mean lump sum rate per linear metre of coring in concrete.

Reference II-10-7-4.

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Item 908 - Strip pile head cut-off

Mean lump sum unit rate per strip pile.

This item will cover the pile head cut-off operation and the transportation of spoils to spoil bank.

Reference II-10-8.

Item 909 - Demolition of guide walls for strip piles

Mean lump sum rate per strip pile.

This item will cover demolition and transportation of spoils to spoil bank.

Item 910 - Static load test

Lump sum for preparing, performing and interpreting a static pile load test.

This item will cover:

- The furniture and installation of the equipment necessary to develop reaction forces;
- The furniture and installation of the measuring equipment including the extensometre;
- The performance of the static load test according to specification;
- The interpretation of the test.

The construction of the strip pile devoted to the tests will be paid under items 901, 902, 903, 904, 905, 406, 501, 908, 909.

Reference II-10-7-5.

10.3 VIBROFLOTATION

General

The quality control equipment and performance as required in II-11-4 will not be paid under a separate item. It is deemed to be spread over vibroflotation rates.

Item 911 - Vibroflotation (depth of treatment less than 25 m)

Mean lump sum rate per linear metre treated by vibroflotation for a maximum depth of treatment of 25 m.

For payment purposes the length along a vertical line of treatment will be defined as follows:

- Below spillway:

  Distance between elevation 63 and elevation of base of treatment as shown in drawing NE-07 or as required by the Engineer.

- Treatment under any other concrete structure if required by the Engineer:

  Distance between elevation of foundation underface plus 2 m and base of treatment as required by the Engineer.

- For closure dam:

  Distance effectively treated between treatment platform and base of treatment as shown in drawing NE-07 or as required by the Engineer.

  The elevation of treatment platform will not be larger than el. 77.

- For the 5 to 1 slope between lock and power house intake channel: distance effectively treated. This distance will not be larger than the distance between final slope elevation plus 2 m and base of treatment as shown in drawing NE-07.

  There will be no additional payment for treatment platforms located at higher elevations than those considered in definition hereabove.

  Reference II-11-1 to II-11-7.

Item 912 - Vibroflotation (total depth of treatment 25 to 30 m)

Mean lump sum rate per linear metre treated by vibroflotation for a total depth of treatment ranging between 25 and 30 m if required by the Engineer.

Reference II-11-1 to II-11-7.

Item 913 - Trial areas for vibroflotation

This item includes the vibroflotation of the trial areas, the drilling of boreholes, sampling, CPTs, SPTs, laboratory analysis and interpretation report.

Reference II-11-7-2.

Item 914 - Backfill material for vibroflotation (sand)

Mean lump sum rate per cubic metre of sand backfill added in the hole during vibroflotation process.

The rate will cover loading within the site limit, transportation and placement.

References II-11-1-2 and II-11-7-3-1.

Item 915 - Backfill material for stone column (gravels)

Mean lump sum rate per cubic metre of material derived from the pit run gravel.

This item will be resorted to if stone columns are requested by the Engineer in some locations.

The rate will cover processing of the pit run gravel if necessary, loading, transportation and placement. There will be no overhaul on this item.

References II-11-7-3-2 and II-5-4-3.

10.4 HEAVY TAMPING: ALTERNATIVE No 2

General

For payments purposes the thickness of soil to be treated will be considered and defined as follows:

- Below spillway:

  Distance between elevation 63 and elevation of base of treatment as shown in drawing NE-07 or as required by the Engineer.

- Treatment under any other concrete structure if required by the Engineer:

  Distance between elevation of foundation underface plus 2 m and base of treatment as required by the Engineer.

- For closure dam:

  Distance effectively treated between treatment platform and base of treatment as shown in drawing NE-07 or as required by the Engineer.

  The elevation of treatment platform will not be larger than el. 77.

- For the 5 to 1 slope between lock and power house intake channel: distance effectively treated. This distance will not be larger than the distance between final slope elevation plus 2 m and base of treatment as shown in drawing NE-07.

  There will be no additional payment for treatment platforms located at higher elevations than those considered in definition hereabove.

- The quality control equipment and performance as required in II-11-4 will not be paid under a separate item. It is deemed to be spread over heavy tamping rates.

- If settlements during treatment in areas of future concrete structure are such that use of backfill appears necessary to level craters between the different passes, this backfilling operation will be paid under item 212.

Reference II-11-1 to II-11-6 and II-11-8.

Item 916 - Heavy tamping - Treated total soil thickness less than 15 m

Mean lump sum rate per square metre of treatment measured horizontally for a total soil treated thickness less than 15 m.

Item 917 - Heavy tamping - Treated total soil thickness 15 to 20 m

Mean lump sum rate per square metre of treatment measured horizontally for a total soil treated thickness larger than 15 m and less than 20 m.

Item 918 - Heavy tamping - Treated total soil thickness 20 to 25 m

Mean lump sum rate per square metre of treatment measured horizontally for a total soil treated thickness larger than 20 m and less than 25 m.

Item 919 - Heavy tamping - Treated total soil thickness 25 to 30 m

Mean lump sum rate per square metre of treatment measured horizontally for a total soil treated thickness larger than 25 m and less than 30 m.

Item 920 - Trial areas for heavy tamping

This item covers the tamping of the trial areas, the drilling of boreholes, sampling, CPTs, SPTs, ground vibration measurements laboratory analysis and report.

Reference II-11-8-4-1.

11. GEOTECHNICAL INVESTIGATIONS (series 1000)

Reference II-2.

Item 1001 - Mobilisation of equipment and personnel

Lump sum.

This item covers mobilisation of drilling equipment, in situ testing equipment and personnel.

Item 1002 - Demobilisation of equipment and personnel

Lump sum.

This item covers demobilisation of drilling equipment, in situ testing equipment and personnel at the end of the works.

Item 1003a. - Set up and dismantle boring equipment at each borehole location (dry access)

Unit rate.

Item 1003b. - Set up and dismantle boring equipment at each borehole location (in river location)

Unit rate.

This rate will apply when the water depth at borehole location is larger than 0.7 m.

Item 1004 - Drilling with continuous coring

Mean lump sum rate per linear metre of drilling with continuous coring under bentonitic mud. The rate include mud preparation and supply including all losses. It also includes the supply of core boxes and the filling after completion of the borehole with a bentonite cement mix of lengths drilled in the hard clays.

- Item 1004a: applies for drilling depths less than 50 m
- Item 1004b: applies for drilling depths larger than 50 m and less than 85 m.

Item 1005 - Undisturbed sample

Unit rate for recovering and conditionning an undisturbed sample.

Item 1006 - Casing

Unit rate per linear metre of steel casing.

This rate will cover installation and retrieval. There will be no extra payment for abandoned casing.

Item 1007 - Destructive drilling for SPT and piezometre

Mean lump sum rate per linear metre of destructive drilling performed for SPT testing or piezometre installation. This rate will also cover predrilled hole for CPT if required by Engineer.

Item 1008 - Destructive drilling for pressuremeter tests

Mean lump sum rate per linear metre of destructive drilling for pressuremeter testing. This rate will also apply in case of installation by driving in a slotted pipe if required by Engineer.

Item 1009 - Permeability test

Unit rate per test.

Item 1010 - Set up and dismantle CPT equipment at each location (dry access)

Unit rate.

Item 1011 - Set up and dismantle CPT equipment at each location (in river location)

Unit rate:

This rate will apply when the water depth at borehole location is larger than 0.7 m.

Item 1012 - Static cone penetration test

Mean lump sum rate per linear metre of static cone penetration including all necessary measurements, calculations and interpretations.

Item 1013 - Standard penetration test

Unit rate per test.

This item will cover the test itself, the readings and the recovery of the undisturbed sample, the plotting of test results.

The calibration of the equipment is deemed to be spread over the unit rate.

Item 1014 - Pressuremeter test

Unit rate per test.

This item will cover the test itself, the readings, the necessary calculations and interpretation, the plotting of test results.

The calibration of the equipment is deemed to be spread over the unit rate.

Item 1015 - Supply and install piezometre

Mean lump sum rate per linear metre of piezometre. This item will cover supply (including screen) and installation.

Drill hole will be paid under item 1007.

Item 1016 - Natural moisture content

Unit rate per test.

Item 1017 - Dry unit weight

Unit rate per test.

Item 1018 - Specific gravity

Unit rate per test.

Item 1019 - Liquid and plastic limits

Unit rate per test.

Item 1020 - Sieve analysis

Unit rate per test.

This item will apply for materials with maximum particle size up to 75 mm (3").

Item 1021 - Hydrometre analysis

Unit rate per test.

Item 1022 - Relative density

Unit rate per test.

Item 1023 - Moisture density relations (ASTM D698)

Unit rate per test.

Item 1024 - Moisture density relations (ASTM D1557)

Unit rate per test.

Item 1025 - Laboratory vane test

Unit rate per test.

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Item 1026 - Unconfined compression strength

Unit rate per test.

Item 1027 - Direct shear test

Unit rate per test. One test including three shearings at 3 different normal stresses.

Item 1028 - Unconsolidated undrained triaxial test (UU)

Unit rate per test. One test including three samples sheared under three different confining pressures.

The rate includes the moisture content and dry density measurements.

Item 1029 - Consolidated undrained triaxial test (CU)

Unit rate per test. One test including three samples consolidated and sheared under undrained conditions.

The rate includes the consolidation under backpressure, the moisture content and dry density determinations.

Item 1030 - Consolidated drained triaxial test (CD)

Unit rate per test. One test including three samples consolidated and sheared under drained conditions.

The rate includes the consolidation under backpressure, the moisture content and dry density determinations.

Item 1031 - Oedometer test

Unit rate per test. The rate includes in addition to measurements of compressibility the determination of coefficient of consolidation and the measurements of dry density water content and specific gravity.

Item 1032 - Liquefaction test on sand (triaxial)

Unit rate per sample subjected to the liquefaction test in the triaxial apparatus. The rate includes saturation under backpressure in the consolidation stage, and exact determinations of dry density before cyclic loading.

Item 1033 - Dynamic triaxial test on clay

Unit rate per cohesive sample subjected to the dynamic triaxial test. The rate includes consolidation under back pressure.

Item 1034 - Sulfate content of soils

Unit rate per test.

Item 1035 - Extra over on sieve analysis

Extra over on item 1020 for materials containing particles up to 500 mm diametre.

The rate covers handling, weighting in the field and determination of grading curve between maximum particle size and 75 mm.

Item 1036 - Californian bearing ratio

Unit rate per test.

Item 1037 - Laboratory testing report

Lump sum.

Item 1038 - Final geotechnical report

Lump sum.

12. MISCELLANEOUS (series 1100)

Item 1101 - Furnishing steel pipe pile Ø 762 mm, 22 mm WT

Mean lump sum rate per kilogramme of steel pipe pile delivered on site. Measurement for payment shall be the number of kilogrammes on site.

The rate will cover furnishing, including first protection layers, transportation to the site and temporary storage.

Reference II-12-1.

Item 1102 - Furnishing steel pipe pile 0 1066 mm, 22 mm WT

Mean lump sum rate per kilogramme of steel pipe pile delivered on site. Measurement for payment shall be the number of kilogrammes on site.

The rate will cover furnishing, including first protection layers, transportation to the site and temporary storage.

Reference II-12-1.

Item 1103 - Furnishing steel pipe pile 0 508 mm, 12 mm WT

Mean lump sum rate per kilogramme of steel pipe pile delivered on site. Measurement for payment shall be the number of kilogrammes on site.

The rate will cover furnishing, including first protection layers, transportation to the site and temporary storage.

Reference II-12-2.

Item 1104 - Placing and driving 0 762 mm, steel pipe pile

Mean lump sum rate per linear metre of driving to the penetration required on the drawings for 0 762 mm steel pipe pile.

The rate will include handling, transportation on location and driving.

Reference II-12-1-4.

Item 1105 - Placing and driving 0 1066 mm, steel pipe pile

Mean lump sum rate per linear metre of driving to the penetration required on the drawings for 0 1066 mm steel pipe pile.

The rate will include handling, transportation on location and driving.

Reference II-12-1-4.

Item 1106 - Placing and driving 0 508 mm, steel pipe pile

Mean lump sum rate per linear metre of driving to the penetration required on the drawings for 0 508 mm steel pipe pile.

The rate will include handling, transportation on location and driving.

Reference II-12-1-4.

Item 1107 - Cutting off Ø 762 mm steel pipes head

Unit rate per steel pipe Ø 762 mm.

Reference II-12-1-2.

Item 1108 - Cutting off Ø 1066 mm steel pipes head

Unit rate per steel pipe Ø 1066 mm.

Reference II-12-1-2.

Item 1109 - Cutting off Ø 508 mm steel pipes head

Unit rate per steel pipe Ø 508 mm.

Reference II-12-2.

Item 1110 - Final protective coat on steel pipe piles

Mean lump sum rate square metre of protective coat painted on the steel pipe piles. Measurement shall be the actual surface of steel pipe piles painted as directed by the Engineer.

The rate shall cover thoroughly cleaning before painting so as to remove all surface dust and adherence and the provision of all necessary scaffolding and any other services needed for the proper execution of the work.

Reference II-12-1-5.

Item 1111 - Dolphins and mooring post liaison plates and beams

Mean lump sum rate per kilogramme of steel liaison plates and beams including all accessories, such as fenders supports, stiffeners and access ladders.

Measurement of metal actually placed without any allowance for cutting waste.

This price covers all work concerning supply and setting of plates including welding of the supports as well as all protection layers.

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Item 1112 - Dolphin and mooring post gangways

Mean lump sum rate per kilogramme of steel gangway including all accessories, stiffeners and access ladders.

Measurement of metal actually placed without any allowance for cutting waste.

This price covers all work concerning supply and setting of plates including welding of the supports as well as protections layer and gangplank made of creosoted greenhart type wood which shall be spraid over in this item.

Item 1113 - Dolphin and mooring post wood fenders

Mean lump sum rate per cubic metre of wood fender measured from the prescribed lines and dimensions shown on the drawing.

The rate covers supply and placing of fender with crest beam made of creosoted greenhart type wood including all wooden and metal accessories necessary for the fitting and fixing over the liaison plate.

Item 1114 - Fender waling

Mean lump sum rate per linear metre of fender waling.

Measurement shall be the length of fender waling shown on the drawings.

The rate shall include creosoted greenhart type wood and U shape steel supports with all accessories for fixing and fitting the fender.

The rate shall cover supply and placing fender waling.

Item 1115 - Rubber dock fenders

Unit rate per rubber dock fender

This item will include furniture and installation of the rubber dock fender including supporting chain and connection to dolphin liaison plate.

Reference II-12-11.

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Item 1116 - Miscellaneous steel work

[illegible] sum

Mean lump/rate per kilogramme of miscellaneous steel work such as metallic cover, handrail, railing, ladder, angle reinforcement, chequered cover plad, screen pipes, anchorings, supports, expansion, anchors and so forth, etc., excluding the work paid under other works.

Measurement of metal actually placed without any allowance for cutting, waste, jointing, welding, painting, placing and fixing.

The rate includes all the works specified in II-12-3.

Item 1117 - Lockwall wood kerb

Mean lump sum per linear metre of wood kerb.

Measurement shall be the length of wood kerb shown on the drawings.

The rate shall include creosoted greenhart type wood and all accessories for fixing and fitting the wood kerb. The rate shall cover supply and placing wood kerb.

Reference II-4-11.

Item 1118 - Footbridge

Mean lump sum rate per kilogramme of steel footbridge over lock of the present Esna dam.

This price covers all work concerning supply and setting of plates and beams including welding of the supports as well as protections layer and gangplank made of creosoted greenhart type wood which shall be spraid over in this item.

Reference II-12-12.

Item 1119 - Reinforced neoprene bearing pad for bridge

Mean lump sum rate per unit of reinforced bearing pad in accordance with the dimensions shown on the drawing.

This item covers the supply, transport, settling, levelling, shuttering and fixing of all other contingencies related to the neoprene bearing pads including ashlar.

Reference II-4-14.

Item 1120 - Reinforced neoprene bearing pad for overhead travelling crane

Mean lump sum rate per unit of reinforced bearing pad in accordance with the dimensions shown on the drawing.

This item covers the supply, transport, settling, levelling, shuttering and fixing of all other contingencies related to the neoprene bearing pads including ashlar.

Reference II-4-14.

Item 1121 - Unwoven fabric filter

Mean lump sum rate per square metre of the surface. Measurement for payment shall be the net surface shown on the drawing. The rate shall take account of overlapping.

This item does not cover unwoven fabric filter for the closure dam which will be paid under item 1123.

Item 1122 - Unwoven fabric filter for closure dam and power house - Spillway channels outside the cofferdam

Mean lump sum rate per square metre of the surface. Measurement for payments shall be the net surface shown on the drawings. The rate shall take account of overlapping.

Reference II-12-7.

PIPES

Pipes shall be measured on the drawings along the centre line of the canalisation including short length pipes and sleeves.

The rates include the following works:

- supply and delivery to the site,
- handling of the pipes, setting and jointing, connection to concrete structures to ensure perfect watertightness.

Item 1123 - PVC pipe

Mean lump sum rate per linear metre of PVC pipes:

1123 a - Internal diameter	50 mm
1123 b - Internal diameter	100 mm
1123 c - Internal diameter	150 mm
1123 d - Internal diameter	200 mm
1123 e - Internal diameter	300 mm

Item 1124 - Concrete pipe - Internal diameter: 600 mm

Mean lump sum rate per linear metre of concrete pipe.

Item 1125 - Half round concrete drain pipe - Internal diameter: 600 mm

Mean lump sum rate per linear metre of half round concrete drain pipe.

The rate includes the cover plate bearing the fresh concrete of the raft.

Item 1126 - Concrete pipe - Internal diameter: 1200 mm

Mean lump sum rate per linear metre of concrete pipe.

Item 1127 - Monitoring equipment

Lump sum for covering all costs and charges to supply and install all necessary equipment and works shown on drawing NE-37.

The lump sum shall include the following:

- settlement marks for monitoring settlement as shown on drawing,
- settlement marks for monitoring raft settlement during construction,
- settlement reference mark monuments, including steel pipe pile for monument foundation,
- piezometers through concrete structures, embankment and ground,
- monitoring during construction and maintenance periods.

The lump sum does not include the upstream and downstream shelters for river water level measured systems which shall be covered by the item 1128.

Reference II-12-13-1 to II-12-13-4.

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Item 1128 - Shelters for water level measurement systems

Lump sum for covering all costs and charges to build 4 shelters as described in the specification.

The lump sum shall include all necessary materials necessary for the construction of the 4 shelters.

The item does not include the equipment for river water level measurement which shall be covered in the Part B of the Bill of Quantities.

Reference II-12-13-5.

Item 1129 - Carrier mainted hydraulic crane

Lump sum for supply and delivery of the equipment.

Reference II-12-14.

13. BUILDINGS (series 1200)

Item 1201 - Lock control tower

Lump sum for covering all costs and charges for construction of the control tower as shown on the drawing.

The lump sum shall include the following:

- reinforced concrete structure
- control room steel frames with its steel sheet cladding, including protection layers, walls and roof insulation and all acessories,
- brick walls including tender on both faces,
- metal doors and windows in the control room at elevation 34.80 and in the rest room at elevation 27.20, including fitting, sealing, glazing and protection layers,
- terrazzo floors,
- sanitation works and facilities as lavatory basin, European ~~Asian~~ style WC with flushing including connecting equipment plumbing, taps, fittings, junction with septic tank and others networks,
- painting.

The lump sum does not include the air conditionning and electrical equipment.

Reference II-13.

Item 1202 - Administration building

Lump sum for covering all costs and charges for construction of the administration building as shown on the drawing.

The lump sum shall include the followings:

- the reinforced concrete structures including raft and roof,
- brick walls including tender on both faces,
- external metal doors and windows and frames including fitting, sealing, glazing and protection layers,
- translucent glass blocks including fitting,
- internal wood doors and frames including fitting, sealing, glazing and and protection layers,
- terrazzo floors,
- sanitation works and facilities as lavatory basin, ~~Asian~~ European style WC with flushing, septic tank 6 C.M. of available storage capacity, shower, including connecting equipment, plumbing, taps, fittings, jonction with septic tank and others networks,
- wall lining with glazed tiles facing in the toilet,
- painting,
- roof insolation,
- false ceiling including supports and all fittings.

— The lump sum does not include air conditionning and electrical equipment.

Reference II-13.

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Item 1203 - Store house and workshops

Lump sum for covering all costs and charges for construction of the store house and workshop as shown on the drawing.

The lump sum shall include the followings:

- foundation preparation as shown on the drawing,
- reinforced concrete raft,
- steel building frames in accordance with the main features shown on the drawing, the minimum height shall allow the moving of an overhead travelling crane having a lift height of 5.00 m, including all connecting equipment and protection layers,
- overhead travelling crane supports,
- abestos cement sheet cladding including all accessories, connecting equipments,
- [illegible] asbestos cement sheet roofing including all accessories, translucide panels, ventilation devices and all connecting equipment (bearing and partition walls),
- brick walls including tender on both faces,
- metal doors, windows and frames as shown on the drawing including fitting, sealing, glazing and protection layers,
- metal sliding door and frame including fittings, sealing and protection layers,
- internal wood doors and frames for toilet and cloakroom including fitting, sealing, glazing and protection layers,
- terrazzo floor finish in the toilet and cloakroom, floated concrete everywhere else,
- wall lining with glazed tiles facing in the toilet,
- sanitation works and facilities as lavatory basin, ~~Asian~~ European style WC, with flushing, shower, septic tank 6.0 C.M. of available storage capacity, including connecting equipment, plumbing taps, fittings, junction with septic tank and others networks,
- painting.

The lump sum does not include electric equipment.

Reference II-13.

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Item 1204 - Power plant sanitation

Lump sum for covering all costs and charges for supply and placing sanitary equipment as shown on the drawings.

The lump sum shall include the followings:

- lavatory basin in the battery room,
- European ~~asian~~ style WC with flushing, shower tray, lavatory basin, wash hand basin,
- all connecting equipments, plumbing, taps, fittings junction with the septic tank and others networks.

Reference II-13-09.

Item 1205 - Doors and frames

Mean lump sum rate per square metre of doors shown in the drawings for spillway and power plant.

a) Single or double metal doors;

b) Single or double wood doors.

These items shall cover the supply and fitting of joinery, glazing including sealing mortars.

Item 1206 - Metal windows and frames

Mean lump sum per square metre of power plant and spillway windows and frames shown on the drawings.

These items shall cover the supply and fitting of joinery, glazing, including sealing mortar.

Reference II-13-10 and 11.

Item 1207 - Precast terrazzo tiling for power plant offices and accesses

Mean lump sum rate per square meter of terrazzo tiles placed in the power plant offices and accesses.

The surface of terrazzo tiles shall be measured from the dimensions shown on the drawing or as ordered by the Engineer.

Reference II-13-6.

Item 1208 - Brickwork

Mean lump sum rate per square metre of brickwall:

a) Bearing wall 20 cm thick;

b) Partition wall 10 cm thick.

The rate includes all the work specified in II-13-03.

Item 1209 - Rendering

Mean lump sum rate per square metre of rendering.

Reference II-13-05.

Item 1210 - Glazed tile facing

Mean lump sum rate per square metre of glazed tiles placed.

Reference II-13-07.

Item 1211 - Fencing

Mean lump sum rate per linear metre of 2.30 m high fencing including gates and any contingencies.

Reference II-13-13-3.

Item 1212 - Power plant suspended ceiling

Mean lump sum rate per square metre of suspended ceiling installed in the power plant, including all the work specified in volume II-13-12-7.

Note

The works required in Vol. II Division 13 for buildings which are not covered by a special item of the bill of quantities are deemed to be spread over the unit rates for building.

Item 1300 - Pitched storework construction (hammered) for navigation lock wall facing

Mean lump sum per square meter
Reference II-12-15

Item 1301 Housing for Employer and Engineer

Lump sum
This item will cover housing for the Employer and Engineer.
Reference II-1-21

~~Item 1302 - 100 Low cost units in multistore buildings~~

[illegible]

~~Lump sum~~
~~This item will cover 100 low cost units in multistore buildings~~
~~Reference II-1-21~~

ABBREVIATIONS

The following abbreviations have been used in the Bill of Quantities, as well as in the Particular Specifications.

mm	to denote Millimetre
cm	to denote Centimetre
L.M.	to denote Linear Metre
L.L.M.	to denote 'Laying Length' in metre
S.M.	to denote Square metre
C.M.	to denote Cubic metre
C.M.xhm	to denote Cubic metre per hectometre
kg.	to denote Kilogramme
T.	to denote Metric Ton
Quant.	to denote Quantity
km.	to denote Kilometre
dia.	to denote Diameter
No.	to denote Number
%	to denote Per cent
L.S.	to denote Lump Sum
P.S.	to denote Provisional Sum
P.C.	to denote Prime Cost
U.	to denote Unit, per unit
h.p.	to denote Horse Power
H.P.	to denote High Pressure
L.P.	to denote Low Pressure
D.C.	to denote Drainage Canalisation
Gln.	to denote Gallon
l.	to denote Litre
C.M./min	to denote Cubic metre per minute
l/s/dm	to denote Litre per second and per decimetre
m3/s	to denote Cubic metre per second
M.P.S.	to denote Monthly Provisional Sum
daN	to denote Deca Newton (equal to 0.981 kgf)
MPa	to denote Mega Pascal (equal to ten bars or 10,2 kgf/cm^2 or 1 MN/m^2)
MyRxU	to denote Monthly rate per unit
MyLSxU	to denote Monthly lump sum per unit

مؤقت - احتمالي